5.0 SECTION 4(f) EVALUATION

5.1 INTRODUCTION

This chapter provides an evaluation of the project relative to Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303) and its implementing regulations, jointly codified by Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) in March 2008 as a Final Rule at 23 CFR Part 744. Section 4(f), a law applying only to agencies within the U.S. DOT, states it is the policy of the federal government "that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites" (49 USC 303).

The proposed action, as described in Chapter 2 *Alternatives* of the Draft EIS, is a transportation project that may receive federal funding and/or discretionary approvals through USDOT; therefore, documentation of compliance with Section 4(f) is required. FHWA regulations (23 CFR 774) state:

"The Administration may not approve the use, as defined in Sec. 774.17, of a Section 4(f) property unless a determination is made under paragraph (a) or (b) of this section.

(a) The Administration determines that:
- There is no feasible and prudent avoidance alternative, as defined in Sec. 774.17, to the use of land from the property; and
- The action includes all possible planning, as defined in Sec. 774.17, to minimize harm to the property resulting from such use; or

(b) The Administration determines that the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant, will have a *de minimis* impact, as defined in § 774.17, on the property.

According to the Section 4(f) Final Rule (23 CFR 774.17) a feasible and prudent avoidance alternative is defined as:

(1) A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

(2) An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

(3) An alternative is not prudent if:

(i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;

(ii) It results in unacceptable safety or operational problems;

(iii) After reasonable mitigation, it still causes:
(a) Severe social, economic, or environmental impacts;
(b) Severe disruption to established communities;
(c) Severe disproportionate impacts to minority or low income populations; or
(d) Severe impacts to environmental resources protected under other Federal statutes;

(iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;

(v) It causes other unique problems or unusual factors; or

(vi) It involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of an extraordinary magnitude.

This Section 4(f) evaluation has been prepared in accordance with 23CFR§774. Additional guidance has been obtained from the FHWA Technical Advisory T 6640.8A (1987) and the revised FHWA Section 4(f) Policy Paper (2012). Consultation with officials with jurisdiction will continue through the National Environmental Policy Act (NEPA) process.

5.2 SECTION 4(f) "USE"

As defined in 23 CFR 774.17 and 774.15, where applicable and not excepted, the "use" of a protected Section 4(f) property can be classified as a direct use, a temporary use, a constructive use, or *de minimis*. These are defined in the following sections.
Direct Use. A direct use of a Section 4(f) resource takes place when the land is permanently incorporated into a transportation facility.

Temporary Occupancy. A temporary occupancy results in a use of a Section 4(f) property when there is a temporary impact to the Section 4(f) property that is considered adverse in terms of the preservationist purposes of the Section 4(f) statute.

Constructive Use. Constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs

only when the protected activities, features, or attributes of the resource are substantially diminished. This determination is made through:

- Identification of the current activities, features, or attributes of the resource that may be sensitive to proximity impacts
- Analysis of the proximity impacts on the resource
- Consultation with the appropriate officials having jurisdiction over the resource

***De minimis*.** Section 4(f) requirements allow the USDOT to determine that certain uses of Section 4(f) land would have no adverse effect on the protected resource. When this is the case, the use is considered *de minimis*, and compliance with Section 4(f) is greatly simplified. The *de minimis* subsection authorizes FHWA to approve a project that results in a *de minimis* impact to a Section 4(f) resource without the evaluation of avoidance alternatives typically required in a Section 4(f) evaluation.

A finding of *de minimis* use may be made for historic sites when no historic property is affected by the project or the project will have "no adverse effect" on the historic property in question. For parks, recreation areas, and wildlife and waterfowl refuges a finding of *de minimis* use may be made when impacts will not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

5.3 Section 4(f) Project Information

5.3.1 Purpose and Need

The Lead Agencies for this Study have worked with project stakeholders to identify multiple statements of purpose, each directly tied to a recognized need within the Pyramid Highway corridor. Following are the purpose and need statements for this Study (also see Chapter 1 *Purpose and Need*).

5.3.2 Provide improvements to serve existing and future growth

The Cities of Reno and Sparks and unincorporated Washoe County all have experienced considerable growth in the past two decades. Washoe County population has consistently increased, growing 65.1 percent from 1990 to 2010. Over this same period, population in the Cities of Reno and Sparks grew by 68.3 and 69.1 percent, respectively. The City of Reno shows the largest population growth of 34.8 percent between 1990 and 2000; between 2000 and 2010, there were higher growth rates in the City of Sparks and Washoe County. According to population forecasts from the Truckee Meadows Regional Planning Agency (TMRPA), these population growth trends are expected to continue, but at a reduced rate. The total population of Washoe County is forecasted to increase from 410,000 to 610,000. During that same time, population in the Planning Areas near the Study Area is forecasted to grow.

Employment also has grown in the Study Area. Between 1990 and 2000, employment in Washoe County increased from 132,000 to 188,000, a 42.4 percent increase. Recent data from TMRPA shows that total County employment from 2008 to 2030 is forecasted to grow from 290,000 to 460,000, a 58.6 percent increase. Employment statistics for most Planning Areas in the Study Area in show growth. Considerable employment growth is expected in downtown Sparks and Spanish Springs.

The projected increase in population and employment in the region will result in a commensurate increase in vehicle miles traveled. This will continue to strain the transportation network in the region. Improvements are needed to respond to this recent and forecasted growth.

5.3.3 Alleviate existing congestion problems on Pyramid Highway

Level of service (LOS) is one method of describing congestion and the operating performance of a road segment or an intersection. The results of a traffic operations analysis for this Study show that a few of the Study Area intersections are already operating at substandard LOS during peak hours.

Currently, Pyramid Highway traffic volumes in the Study Area southbound in the morning peak travel period and northbound in the afternoon peak are approaching existing capacity for several segments. Along the southernmost section of the Study Area, in the Queen Way and Disc Drive vicinity, the volumes exceed capacity. In 2035, numerous intersections, as well as the entire corridor, are anticipated to operate at LOS F during both AM and PM peak hours.

The inadequate transportation network serving the Study Area results in congestion at intersections and on roadways. This is evident in the traffic volumes on Pyramid Highway that regularly exceed the existing capacity during the peak travel periods. With the projected growth in population and employment, these congestion levels will continue to worsen without capacity improvements.

5.3.4 Provide direct and efficient travel routes to address existing travel inefficiencies

The existing roadway network that provides access to and from the City of Sparks and the Spanish Springs area is limited. Currently, most southbound traffic funnels to Pyramid Highway and then to the Pyramid Highway/McCarran Boulevard intersection. The lack of travel corridors has created inefficient and indirect travel routes, which results in out-of direction travel and traffic overloading on roadways with insufficient capacity.

As the primary north-south corridor through Sparks and Spanish Springs, Pyramid Highway carries most of the local and regional traffic. The Spanish Springs and Sparks Sphere Planning Areas represent most of the traffic that uses Pyramid Highway

regularly. As shown in Tables 1-2 and 1-3, approximately 41,100 residents and 8,700 jobs are already located in these Planning Areas, and these numbers are predicted to increase considerably. A single four-lane arterial cannot sufficiently accept the traffic that would be generated by this growth.

McCarran Boulevard is a four- to six-lane principle arterial between Pyramid Highway and US 395. Traffic studies show that current volumes on McCarran Boulevard already strain its capacity. Without additional east-west capacity, McCarran Boulevard would operate at a LOS E or worse for the entire length from Pyramid Highway to US 395. There are a limited number of points of access into and out of the Spanish Springs and northern Sparks area for traffic destined for the regional freeway system and to the Reno greater metropolitan area. This has resulted in an indirect and inefficient roadway network. Additional connections to improve mobility are needed to effectively serve these areas.

5.3.5 Respond to regional and local plans.

Numerous local plans cite a need for transportation improvements to help meet land use and transportation goals. RTC's 2030 RTP identifies the need for improvements to Pyramid Highway and a new connection to US 395 as part of a larger plan to meet the region's transportation demands. These improvements are included in RTC's 2009-2013 RTIP.

Planning documents for local jurisdictions, such as Washoe County and the Cities of Reno and Sparks, recognize the effect that growth areas in the Study Area would have on transportation needs. The various elements of the *Washoe County Master Plan* have stated goals to make transportation systems seamless and efficient and to reduce dependence on the automobile. The *Spanish Springs Area Plan* and the *Sun Valley Area Plan* cite a need for improvements to Pyramid Highway to accommodate increased development in the area. They further express a need for a safe, efficient, multimodal transportation system that provides connections to commercial, employment, and public spaces. The Reno Master Plan addresses needs for transportation improvements and includes policies, such as ensuring that the road network serves present and future demand.

Local planning documents cite the need for increased multimodal options including developing a regional network of bikeways connected to other transportation modes and to provide pedestrian access to existing and planned land uses as part of all transportation projects. Currently, a relatively small number of the commutes use alternative transportation in the Study Area. This is due to a lack of transit service, poor bicycle and pedestrian facilities, and a land use pattern less conducive to alternative transportation.

For more detailed information regarding the project, refer to Chapter 1 *Purpose and Need*.

5.4 BLM AND BIA PURPOSE AND NEED

If a build alternative is identified as the Preferred Alternative, the BLM and BIA's NEPA responsibilities are addressed under this EIS.

As the lead federal agency for this study, FHWA has the authority for and responsibility to define the purpose and need of the project for purposes of NEPA analysis (CEQ 2003 http://ceq.hss.doe.gov/nepa/regs/CEQPurpose2.pdf). Because the BIA and BLM have jurisdiction over land within the Study Area, FHWA is not the sole federal agency with responsibility for making decisions with respect to the proposed action. Therefore, BIA and BLM are serving as cooperating agencies for this study. FHWA, BIA, and BLM have an independent responsibility to prepare a NEPA document for the proposed action, including a purpose and need statement. To streamline the environmental study process, BIA's and BLM's responsibilities under NEPA will be addressed under this EIS and the Record of Decision that FHWA will prepare for the proposed action; BLM and BIA will not issue a Decision Document for this project.

BLM, FHWA, and NDOT have entered into a Memorandum of Understanding concerning operating procedures for processing federal-aid highway rights-of-way from BLM (2007). The agreement states that BLM will participate as a cooperating agency in the NEPA process on public lands. As a cooperating agency, BLM will use this EIS as a basis for future actions.

Because BLM's decision is different than FHWA's decision, the following describes BLM's purpose and need for the project. The BLM's purpose for the project is to determine if certain public lands should be devoted to federal highway uses. BLM, FHWA, and NDOT will follow the Memorandum of Understanding & Operating Manual, or any approved revisions, for this project (2007). At the conclusion of the NEPA process, FHWA will submit a request to BLM for right-of-way appropriation of public lands determined to be necessary for the project. BLM would then issue a Letter of Consent to FHWA for highway use of the public lands and to identify special stipulations associated with that use.

BIA's purpose for the project is to review and approve any acquisition of trust land for transportation right-of-way.

5.5 ALTERNATIVES

Following is a brief description of the alternatives examined in the Draft EIS. For more detailed information, please see Chapter 2 *Alternatives*.

Each of the build alternatives would provide a similar set of improvements along 7.7 miles of Pyramid Highway from Queen Way north to Calle de la Plata Drive through the communities of Sparks and Spanish Springs. However, the alternatives would differ

regarding alignments for the US 395 Connector, interchange locations, and cross-sections through much of the Study Area.

In addition to the roadway improvements, supplemental elements for each build alternative would include bicycle and pedestrian facilities; increased transit services, including Park and Rides; and Intelligent Transportation Systems. North of Sparks Boulevard, the each of the build alternatives would follow the same alignment along the existing Pyramid Highway. Figure 5-1 displays the elements common to all build alternatives.

Each build alternative would include a new freeway facility and ancillary improvements from Pyramid Highway to US 395 through the Sun Valley area. Both the US 395 Connector and Pyramid Highway north to Eagle Canyon Drive would be constructed as limited-access freeway facilities, with interchanges at major intersecting roadways. Pyramid Highway from Eagle Canyon Drive to Calle de la Plata Drive would be included as a primary arterial highway. The US 395 interchange at Parr Boulevard would be expanded to accommodate the new US 395 Connector.

Each build alternative would include construction of auxiliary lanes on US 395 between the new US 395 Connector and McCarran Boulevard. Also, each build alternative would include the construction of an off-street shared-use path along Pyramid Highway between Calle de la Plata and Disc Drive, as well as along the US 395 Connector alignment.

Elements included in each build alternative beyond the common elements described above are displayed in Figure 5-2 through Figure 5-5.

5.6 Identification of Section 4(f) Properties

The resources evaluated for potential Section 4(f) eligibility in the Study Area included publicly owned parks and recreation areas, including recreation trails, wildlife and waterfowl refuges, and significant historic sites.

5.6.1 Historic Resources

In accordance with the FHWA/FTA regulations, Section 4(f) requirements are applicable only to significant historic resources (i.e., those sites listed on or eligible for listing on the National Register of Historic Places (NRHP), or sites otherwise determined significant by the FHWA Administrator (23 CFR Section 774.17) and the FHWA Section 4(f) Policy Paper [2. Historic Sites]) that are subject to use by the transportation project. Archaeological sites on or eligible for the NRHP are considered an exception from Section 4(f) approval if they are determined to have minimal value for preservation in place (23 CFR Section 774.13[b]).

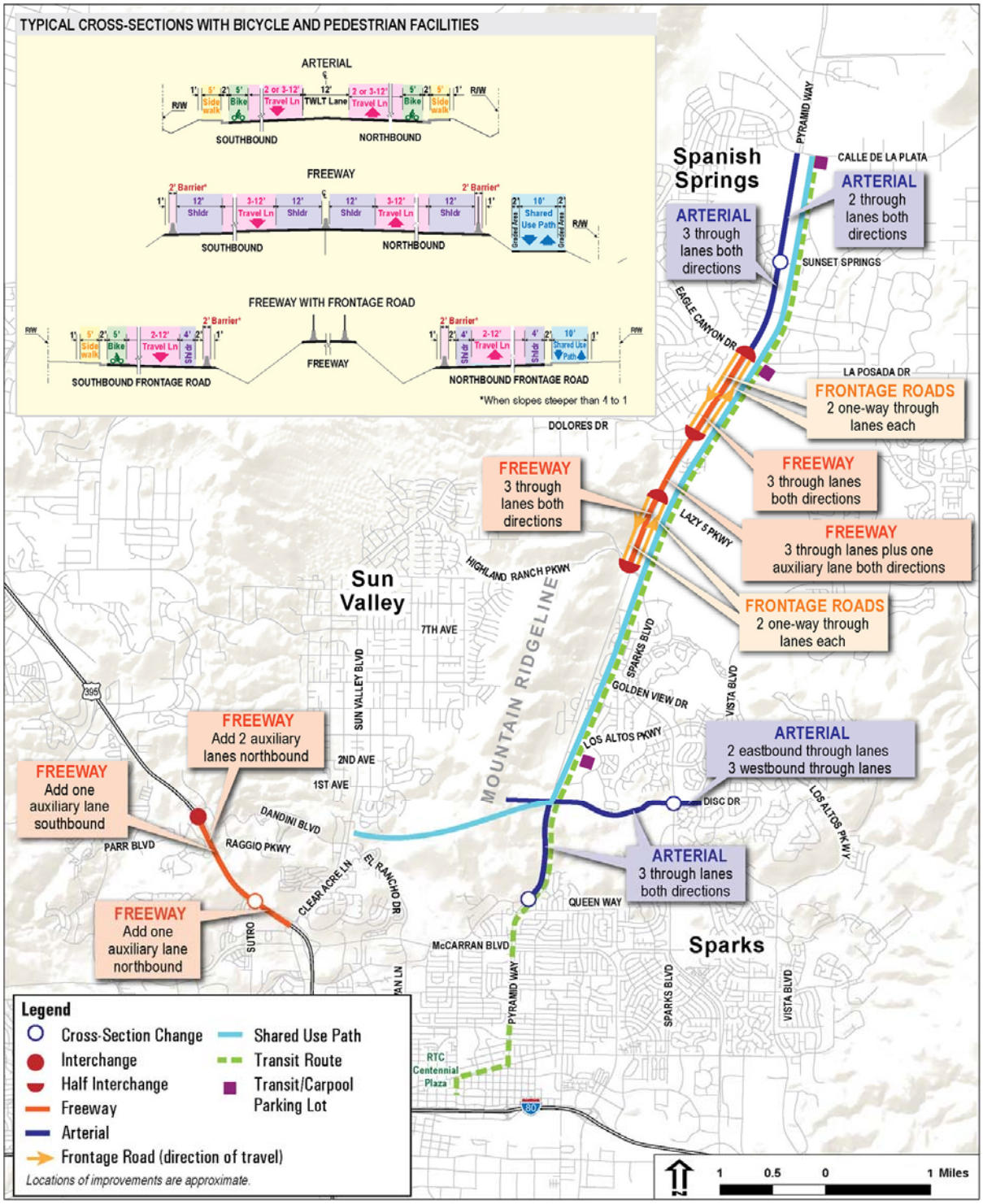
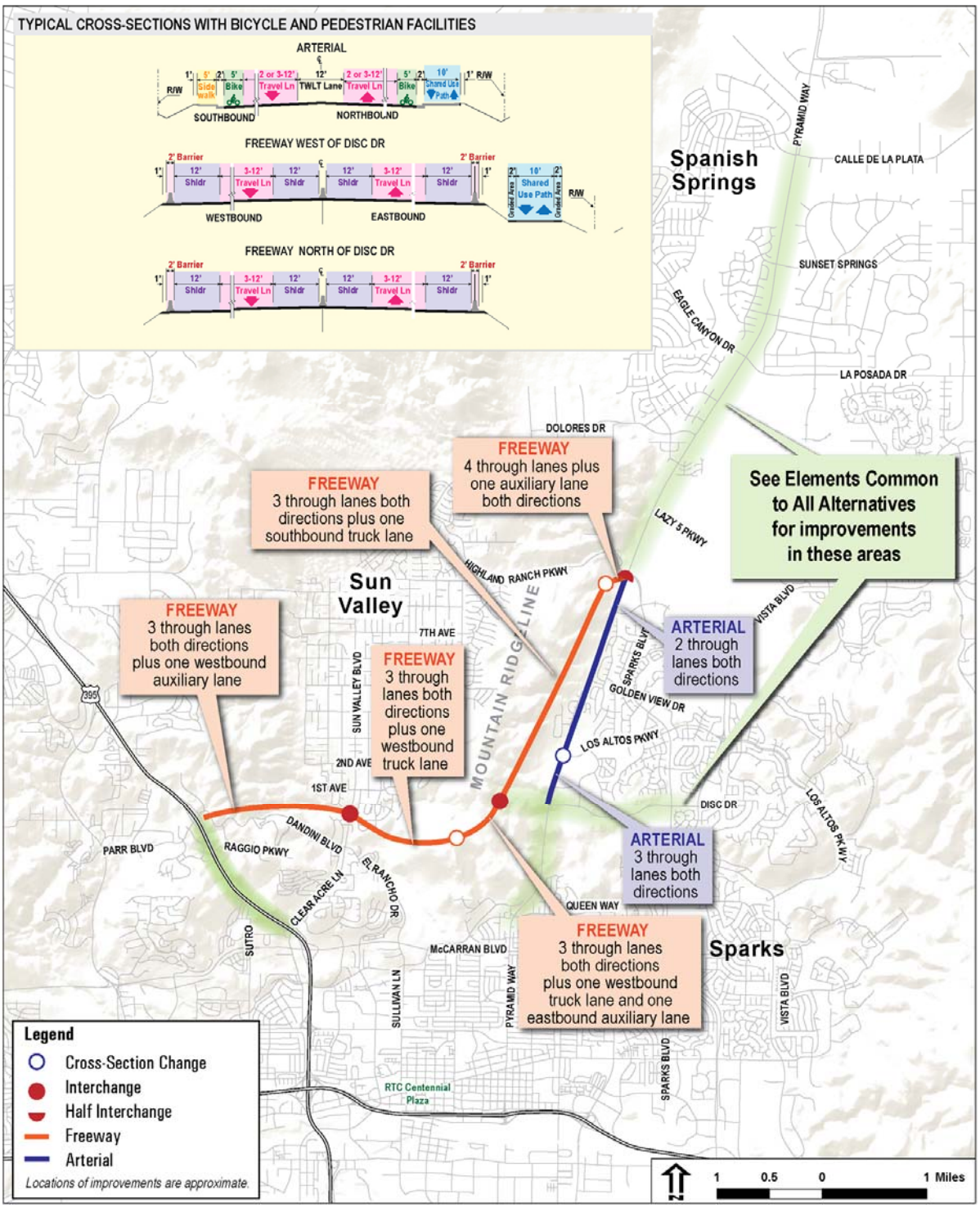
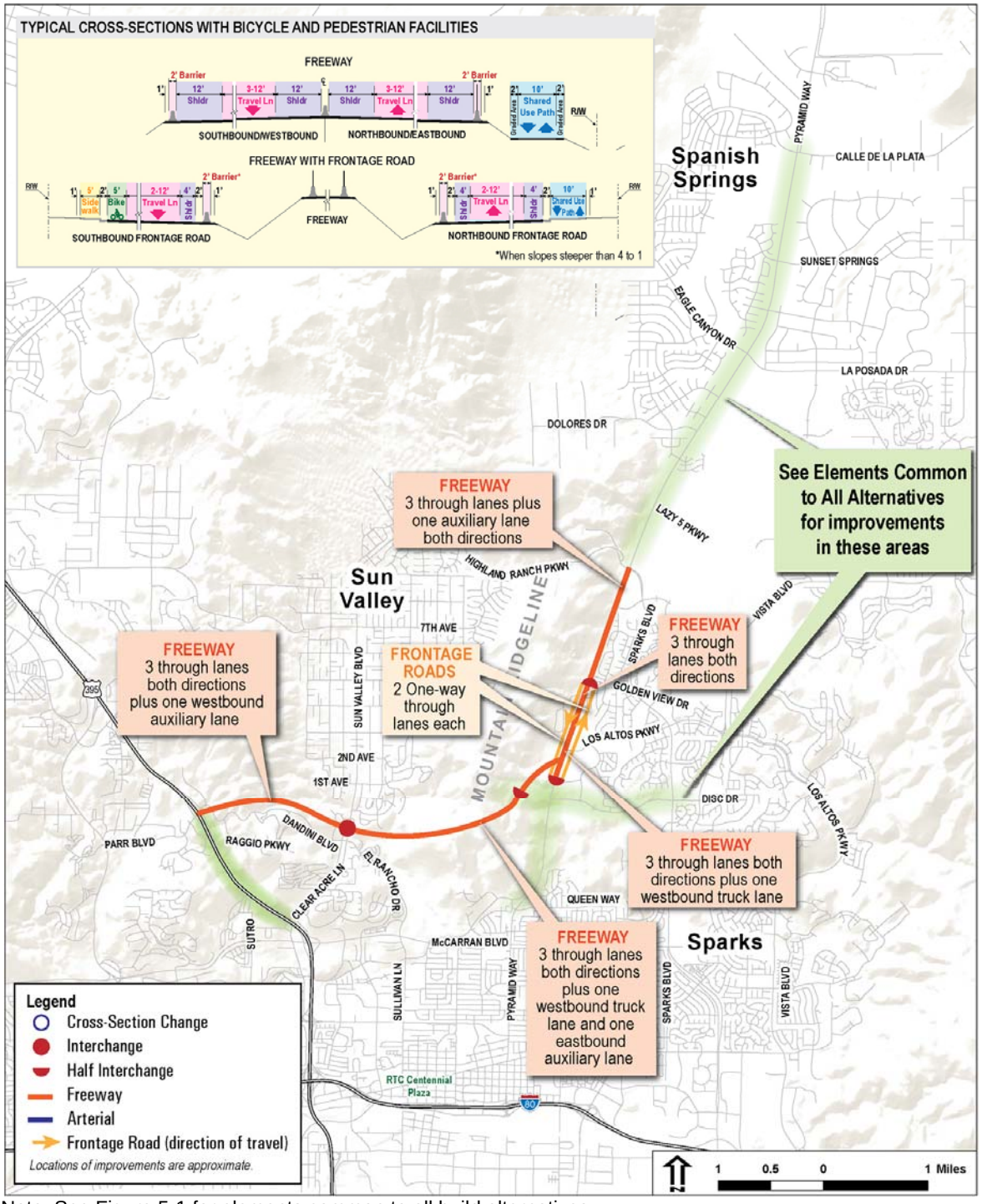


Figure 5-1. Elements Common to All Alternatives



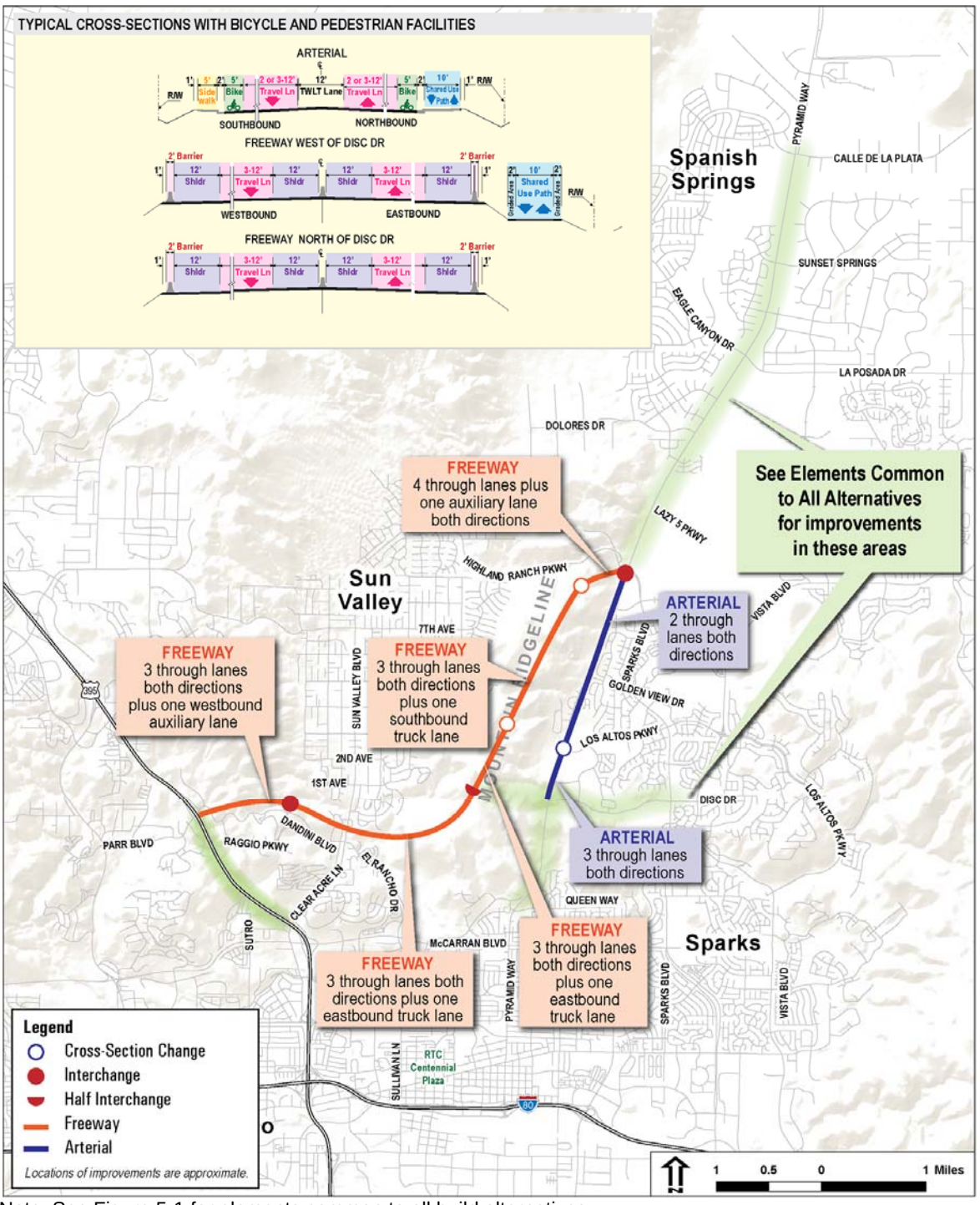
Note: See Figure 5-1 for elements common to all build alternatives.

Figure 5-2. Alternative 1



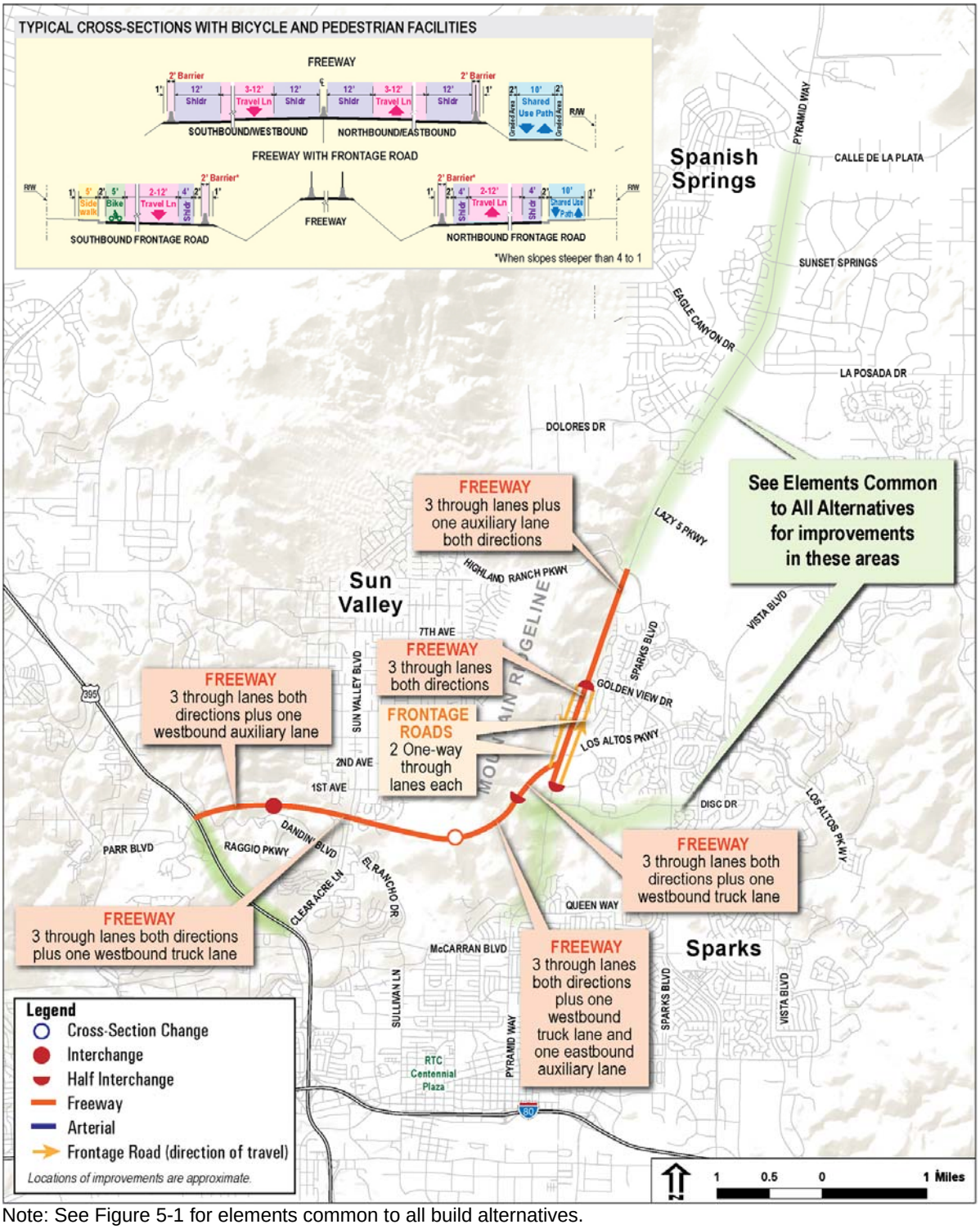
Note: See Figure 5-1 for elements common to all build alternatives.

Figure 5-3. Alternative 2



Note: See Figure 5-1 for elements common to all build alternatives.

Figure 5-4. Alternative 3



Note: See Figure 5-1 for elements common to all build alternatives.

Figure 5-5. Alternative 4

The Study team identified historic properties through an intensive level survey of historic architectural resources, which were evaluated for significance in terms of eligibility for inclusion in NRHP. The historic architectural inventory conducted for this Study inventory is documented in the *Architectural Inventory: Pyramid Highway/ US 395 Connection Project, Sparks, Washoe County, Nevada* (WCRM, 2012).

A comprehensive pedestrian archaeological survey has not been conducted for the Study at this time. A preliminary walkover survey was conducted that identified an estimated 103 distinct "sites" consisting of refuse scatters/dumps, two-track road systems, prospect pits/trenches, mining complexes, and ditches. On preliminary review, the nature of these sites likely makes them important chiefly for what can be learned from data recovery. These sites have minimal value for preservation in place because they do not embody other values besides data and are not considered sites of transcendent importance to archaeology and, therefore, would not require a Section 4(f) evaluation. The Lead Agencies will conduct intensive comprehensive pedestrian archaeological survey after a Preferred Alternative is selected (if a build alternative is selected as the Preferred Alternative). If this survey does identify significant archaeological sites that warrant preservation in place, a Section 4(f) evaluation will be conducted for those properties.

The historic resources considered in this evaluation include all resources that were listed on the NRHP or determined officially eligible for listing on the NRHP. All of the significant historic resources that have been identified within the Area of Potential Effect (APE), whether impacted or not, are described in Section 3.17 *Historic Preservation.* For purposes of this Section 4(f) evaluation, only the four properties subject to use by the project are detailed and documented.

The Lead Agencies identified the following four NRHP-eligible resources within the project's APE that may potentially be used by the project:

Sierra Vista Ranch Historic District. The ranch is considered significant for containing important examples of typical mid-20th century ranch house and ranch outbuilding construction under Criterion C. The buildings and ranch appear to have the necessary associations with mid-20th century Spanish Springs Valley farming and ranching to be considered eligible under Criterion A. The buildings appear to retain sufficient integrity (setting, location, design, feeling, association, and workmanship) to merit eligibility.

Overview of Sierra Vista Ranch Historic District

Trosi Family/Kiley Ranch Historic District. The building complex is associated with the theme of small farms and ranches that made a significant contribution to the evolution of local farming and ranching. The ranch is representative of a once vastly larger population of the property type (that of small farms and ranches in the Spanish Springs Valley and Reno/Sparks area), which has substantially declined and is rapidly disappearing. In addition, the physical characteristics of the farm/ranch are present both in terms of standing architecture and archaeologically, and the resource maintains enough of its historic fabric and the function is readily apparent. The district retains historic integrity in terms of location, design, setting, materials, workmanship, and feeling. The property is, therefore, recommended eligible under Criterion A. The house, outbuildings, and other standing structures on the property are of the vernacular style. The buildings are in their original location, and there are no additions or modifications that impair the quality of design, materials, and workmanship. Thus, the site is recommended eligible under Criterion C. Finally, another portion of this ranch has been previously recommended eligible under Criterion D because of its ability to offer significant information pertinent to the research topics detailed in other reports (Peterson and Stoner, 2003). This portion of the ranch is outside the current parcel boundary due to subdivision of the ranch and ownership changes during the 2000s.


Trosi Family/Kiley Ranch Historic District

Iratcabal Farm Historic District. This farm complex is recommended eligible under Criterion A for its associations with mid-20th century Spanish Springs Valley farming and ranching and under Criterion C as representative of the construction methods and materials common on western Nevada ranches of the early to mid-20th century. The building complex is strongly associated with the theme of small farms and ranches that made a significant contribution to the evolution of local farming and ranching. The farm is representative of a once larger population of the property type (that of small farms and ranches in the Spanish Springs Valley and Reno/Sparks area) that has substantially declined.


Iratcabal Farm Historic District

Prosser Valley Ditch. The Prosser Valley Ditch was determined NRHP eligible in 1995 and was reevaluated in October 2012 as part of this Study. The ditch is considered NRHP-eligible under Criterion A as representative of the irrigation mania that occurred from the 1890s into the early 1900s, and as representative of the dozens of speculative irrigation and land development projects attempted across Nevada and the West during that time. Current research has uncovered evidence that supports the ditch's eligibility under Criterion B for its association with the careers of Reno business leaders and local politicians, such as Francis G. Newlands, P. L. Flannigan, and Walter H. Harris, and their attempts to use irrigation as a vehicle for land speculation. Three segments of the remaining ditch are located within the project footprint (Figure 5-6). The reevaluation found that the two northern ditch segments (Segments A and B) have lost their integrity due to natural forces and recreation activities. The southern segment (Segment C) has a discernible contour and ditch rider's path. It was found that Segment C contributes to the historic significance of the ditch, while Segments A and B do not because of their lack of integrity. Segments A, B, and C of the Prosser Valley Ditch total approximately 0.93 mile.


Prosser Valley Ditch Segment in Study Area

The eligibility related findings for the historic properties described above were included in the historic architecture report that was submitted to the SHPO; the SHPO concurred with FHWA's eligibility recommendations for the four resources described above (see Appendix A *Agency Coordination*).

Potential uses of these historic properties are described below under Section 5.7 *Use of Section 4(f) Properties*.

5.6.2 Public Parks and Recreation Areas

Existing and planned parks and recreation areas, recreation trails, and wildlife and waterfowl refuges were identified in the Study Area. The Study team evaluated data collected from the municipalities on the recreational uses of the public parks and recreation areas to determine if they are considered to be properties protected under Section 4(f). No existing or proposed recreation trails were identified in any areas where improvements are expected to occur under the build alternatives that are not part of the recreation areas discussed below. A Geographic Information Systems (GIS) database was created using this information and verified with the use of relevant comprehensive plans, parks and recreation master plans, open space management plans, and calls to the

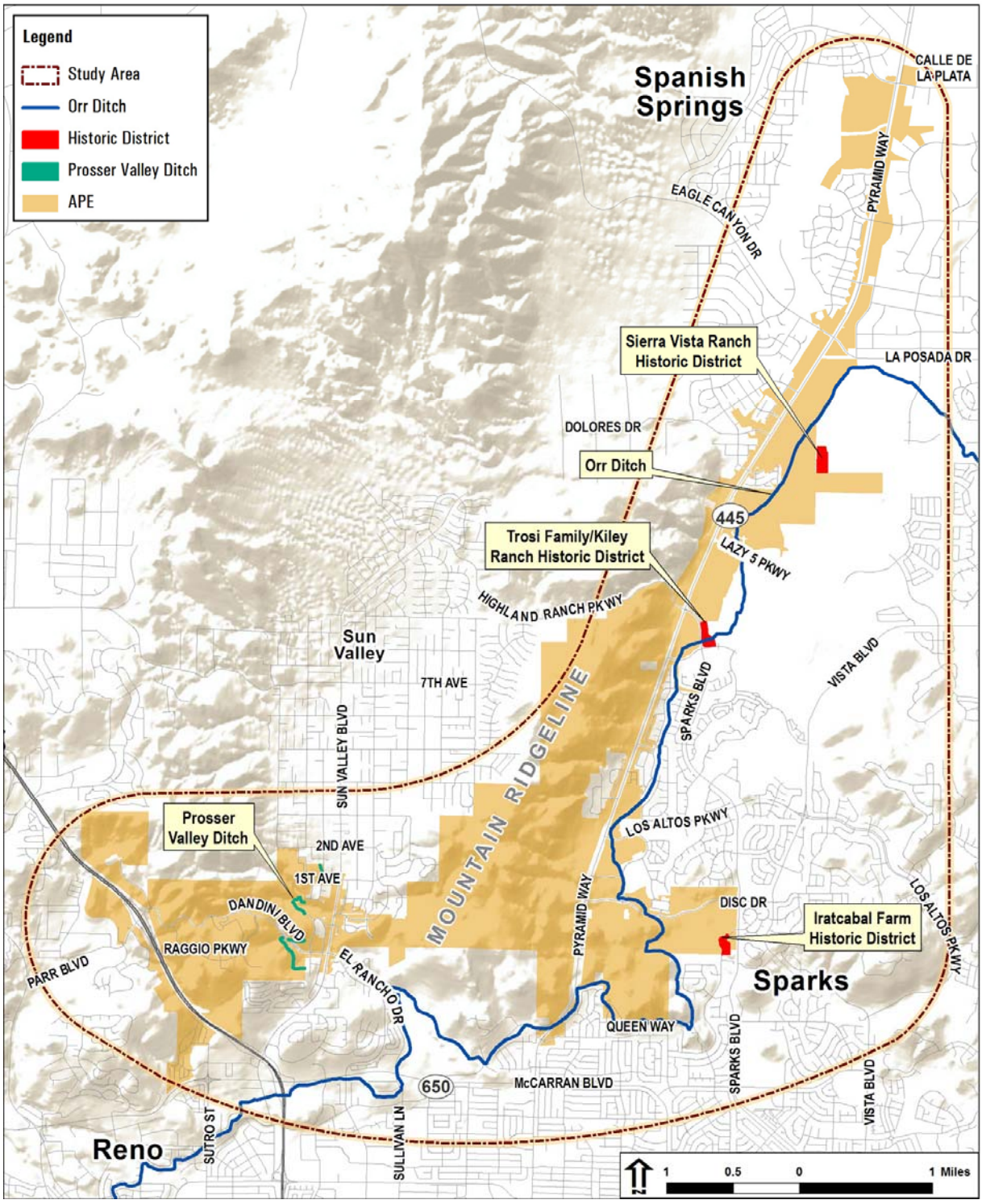


Figure 5-6. NRHP-Eligible Historic Properties in the Historic Architecture APE

relevant jurisdictions. Management plans and agencies were consulted to evaluate if any areas were actively managed as refuges. No properties were identified as eligible for protection as wildlife and waterfowl refuges.

The initial evaluation of parks and recreation areas, public trails, and wildlife and waterfowl refuges identified all resources in the Study Area. The alternatives development and evaluation process identified these properties as protected resources to be avoided, which resulted in many resources being avoided by the build alternatives.

Section 3.19 *Parks and Recreation* contains a complete list of all public parks and recreation areas identified in the Study Area. For purposes of this Section 4(f) evaluation, only Section 4(f) resources having a potential Section 4(f) use by any of the alternatives are discussed.

Three park and recreation properties were identified that would potentially be used by the build alternatives. These properties are described below and shown on Figure 5-7.

Wedekind Park. Wedekind Regional Park is a 270-acre site located east of Pyramid Highway and south of Disc Drive on land owned by the Bureau of Land Management (BLM) (Figure 5-8). In December 2007, the BLM completed an Environmental Assessment (EA) for the proposed land lease and eventual conveyance of this property to the City of Sparks under the Recreation and Public Purposes Act. Under this lease, the City of Sparks Recreation Department will improve and manage the area in accordance with the submitted plan of development and management. This plan of development includes trails, interpretive activities, and a neighborhood park to be located off of 4th Street in Sparks.

Sun Valley Open Space. This 15.4-acre open space is owned and managed by Washoe County. Currently, there are no developed recreation amenities on the parcel; however, the County has envisioned using portions of the site for the proposed Rim Trail that would circle the community of Sun Valley. Funding has not been identified for trail improvements in this area, nor has a specific alignment for the future trail been determined.

Lazy 5 Regional Park. This 85-acre regional park designed around a grove of existing trees is managed by Washoe County. Five acres have been developed to include a community center, athletic fields, basketball courts, horseshoe pits, multipurpose fields, picnic areas, playgrounds, skateboard park, volleyball courts, and a water-play park. The public can reserve many of these facilities. The remainder of the park is undeveloped open space; however, future development, including additional athletic fields, is planned.

Potential uses of these park and recreation properties are described below under Section 5.7 *Use of Section 4(f) Properties*.

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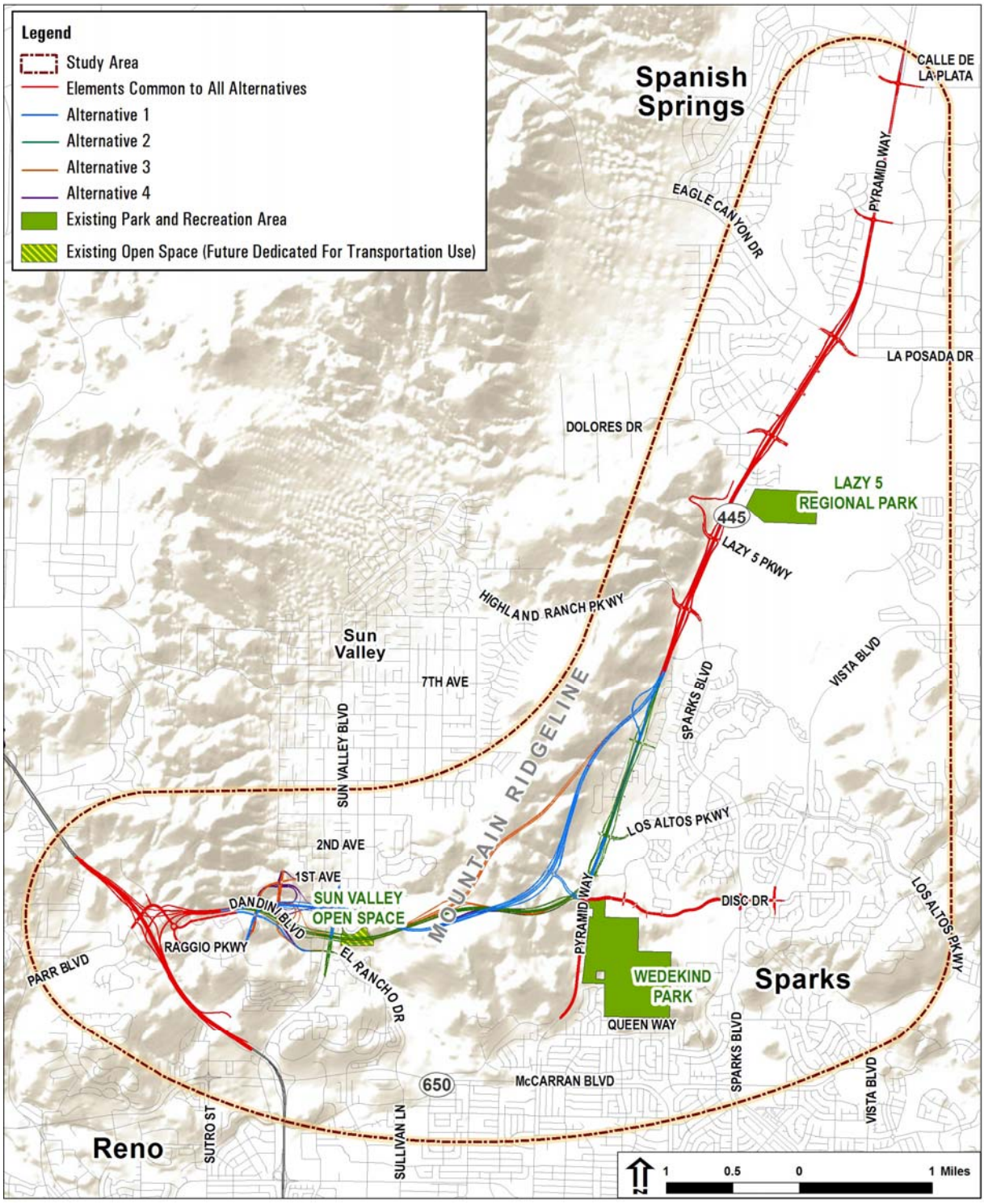

Figure 5-7. Park and Recreational Properties Potentially Used by Build Alternatives

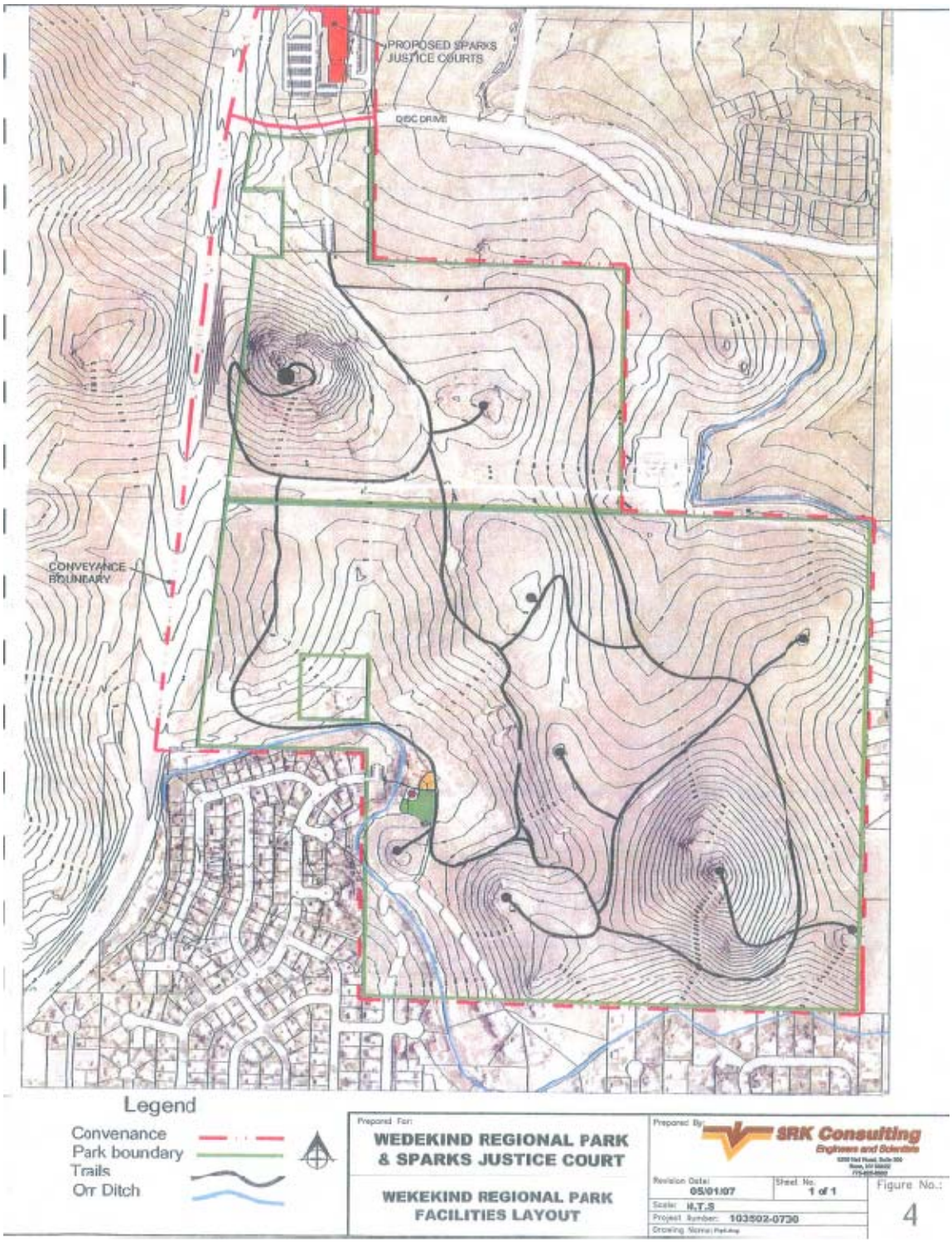

Figure 5-8. Wedekind Park Development Plan

5.7 USE OF SECTION 4(f) PROPERTIES

The following discussion is an analysis of potential Section 4(f) uses from the build alternatives of the Section 4(f) properties described above. All of the build alternatives would result in a use of Section 4(f) properties. For each of the properties, an analysis and determination of a Section 4(f) use is provided, followed by a description of avoidance alternatives, measures to minimize harm, and mitigation measures that have been considered. In the case of a *de minimis* impact, the process does not require the identification of avoidance alternatives.

5.7.1 Historic Resources

The uses of the significant historic Section 4(f) resources are evaluated below. As described, three of the properties, Sierra Vista Ranch Historic District, Trosi Family/Kiley Ranch Historic District, and Iratcabal Farm Historic District would not be directly impacted and have been recommended for no adverse effect under the Section 106 process. These properties are evaluated for potential constructive uses. One property, Prosser Valley Ditch, would have a direct use and has been recommended as an adverse effect under Section 106.

5.7.1.1 Sierra Vista Ranch Historic District

There would be no direct use to the Sierra Vista Ranch Historic District from any of the build alternatives. The build alternatives would not alter, remove, or destroy any of the NRHP-eligible buildings at the site or take lands from the historic district, nor would they change the character of use or physical features within the site's setting that contribute to the historic significance of the site's buildings. The build alternatives would include construction of a grade-separated intersection at the crossing of Pyramid Highway and Dolores Drive, and a feeder road running southeast from the new intersection that would terminate less than 15 feet from the southwestern corner of the site. The buildings are located 700 to 900 feet north-northeast of the terminal point of the new road and approximately 2,000 feet from the elevated intersection. The terrain between the site and the Pyramid Highway is relatively level.

Without modification, the build alternatives would have introduced new visual elements into the setting of the site and new audible elements into the site's setting as a result of anticipated traffic increases that would diminish the integrity of the property's significant historic features. However, these visual and audible effects will be avoided by implementation of avoidance measures; RTC and/or NDOT will plant one or more lines of trees along the western boundary of the district to form a living visual barrier between the district and Pyramid Highway. RTC and/or NDOT will complete a 35mm photo study of the district and its built environment that includes the visual setting of the district in a westerly direction to document the existing setting for posterity.

The Section 106 process resulted in a determination of No Adverse Effect to this resource. The protected activities, features, or attributes that qualify the property for protection under Section 4(f) would not be substantially impaired or diminished. Therefore, effects to the Sierra Vista Ranch Historic District would not result in a Section 4(f) use or a constructive use under Section 4(f).

5.7.1.2 Trosi Family/Kiley Ranch Historic District

There would be no direct use to the Trosi Family/Kiley Ranch Historic District from any of the build alternatives. The build alternatives would not alter, remove, or destroy any of the NRHP-eligible buildings at the site or take lands from the historic district, nor would it change the character of use or physical features within the site's setting that contribute to the historic significance of the site's buildings. The build alternatives would include construction of a six-lane elevated freeway to replace the existing Pyramid Highway starting at the intersection of the highway and Sparks Boulevard. The elevated freeway is planned to be five to six feet above grade except at intersections where the projected heights is 25 to 30 feet above ground level. The Pyramid and Sparks intersection, the beginning of the elevated freeway, is between 800 and 1,300 feet northwest of the Trosi Family/Kiley Ranch site and would change the ground-level views from the ranch site looking west and northwest. The existing topography is relatively level from the site to the Pyramid Highway, and views of the project would not be obscured.

Without modification, the build alternatives would have introduced new audible elements to the site as a result of anticipated traffic increases that would diminish the integrity of the property's significant historic features. However, these visual and audible effects will be avoided by implementation of avoidance measures; RTC and/or NDOT will introduce landscaping in the proposed intersection and highway transition design to form a visual break between the district and Pyramid Highway. This may involve a combination of earthen berms and one or more lines of trees planted along the western and northern boundaries of the district to form a visual barrier between the district and the highway. RTC and/or NDOT will complete a 35mm photo study of the district and its built environment that includes the visual setting of the district, paying special attention to the setting to the west and northwest to document the existing setting for posterity.

The Section 106 process resulted in a determination of No Adverse Effect to this resource. The protected activities, features, or attributes that qualify the property for protection under Section 4(f) would not be substantially impaired or diminished. Therefore, effects to the Trosi Family/Kiley Ranch Historic District would not result in a Section 4(f) use or a constructive use under Section 4(f).

5.7.1.3 Iratcabal Farm Historic District

There would be no direct use to the Iratcabal Farm Historic District from any of the build alternatives. The build alternatives would not alter, remove, or destroy any of the NRHP-eligible buildings at the site or take lands from the historic district nor would it change the character of use or physical features within the site's setting that contribute to the historic significance of the site's buildings. The proposed widening of Disc Drive is located downhill from the farm building complex and is located 1,600 to 2,300 feet from the farm building complex. A widened Disc Drive would likely be more visible than the existing roadway, introducing a larger visual intrusion into the setting of the site.

Without modification, the build alternatives would have introduced new audible elements to the site as a result of anticipated traffic increases that would diminish the integrity of the property's significant historic features. However, these visual and audible effects will be avoided by implementation of avoidance measures; RTC and/or NDOT will plant one or more lines of trees along the western and northern historic district boundaries to create a visual barrier between the farm and the highway improvements. RTC and/or NDOT will complete a 35mm photo study that the district that focuses on its built environment and the visual setting of the district in a westerly direction toward the Pyramid Highway and toward the north and northwest looking at the viewshed that includes Disc Drive in order to document the existing setting for posterity.
The Section 106 process resulted in a determination of No Adverse Effect to this resource. The protected activities, features, or attributes that qualify the property for protection under Section 4(f) would not be substantially impaired or diminished. Therefore, effects to the Iratcabal Farm Historic District would not result in a Section 4(f) use or a constructive use under Section 4(f).

5.7.1.4 Prosser Valley Ditch

Uses of Prosser Valley Ditch differ slightly by alternative. FHWA has determined impacts to Prosser Valley Ditch, including any mitigation and minimization of harm measures undertaken, would result in an adverse effect to the property under all build alternatives and, therefore, would result in a Section 4(f) use. The Section 4(f) use to the property is described by alternative below.

Alternative 1. Dandini Boulevard would be widened where it currently crosses Segment C of the ditch to accommodate safety improvements, which include a center median and wider shoulders. Approximately 100 feet of the ditch was demolished by previous construction of Dandini Boulevard in this area. The ditch likely never carried water and was entirely abandoned by 1930 so no culvert was included at this crossing. Proposed widening would include construction of retaining walls adjacent to the edge of pavement to reduce impacts to the Prosser Valley Ditch. The improvements would result in a use of approximately 25 feet of the ditch; the remaining 2,000 feet of Segment C would not be impacted by Alternative 1.

Alternative 2. Uses under Alternative 2 would be identical to those described for Alternative 1. The improvements would result in a use of approximately 25 feet of the ditch; the remaining 2,000 feet of Segment C would not be impacted by Alternative 2.

Alternative 3. In the area where Dandini Boulevard currently crosses Segment C of the ditch, the roadway would be slightly realigned to match the design of the new interchange west of Sun Valley Boulevard. The realigned Dandini Boulevard also would be widened to accommodate safety improvements, which include a center median and wider shoulders. Approximately 100 feet of the ditch was demolished by previous construction of Dandini Boulevard in this area. The ditch likely never carried water and was entirely abandoned by 1930 so no culvert was included at this crossing. Proposed widening would include construction of retaining walls adjacent to the edge of pavement to reduce impacts to the Prosser Valley Ditch. The improvements would result in a use of approximately 120 feet of the ditch; the remaining 1,900 feet of Segment C would not be impacted by Alternative 3.

Alternative 4. Similar to Alternative 3, Dandini Boulevard would be slightly realigned to match the design of the new interchange west of Sun Valley Boulevard and widened to accommodate safety improvements. Under Alternative 4, the roadway would not be realigned as far as under Alternative 3. The improvements would result in a use of approximately 90 feet of the ditch; the remaining 1,930 feet of Segment C would not be impacted by Alternative 4.

5.7.2 Avoidance Alternatives

Avoidance alternatives for the use of Prosser Valley Ditch were examined, and it was determined that no feasible and prudent avoidance alternatives existed. Avoiding use of Prosser Valley Ditch where it crosses Dandini Boulevard would require completely realigning Dandini Boulevard to the north or south of the ditch segment, spanning the ditch with a structure, or eliminating the proposed safety features from the Dandini Boulevard improvements.

Other alternatives that would avoid the Prosser Valley Ditch were evaluated in the alternatives screening process, but were eliminated from consideration for the reasons discussed below and further in Chapter 2. For example, improving Pyramid Highway to a six-lane arterial north of McCarran Boulevard without the US 395 connector was considered, and several transit alternatives were considered, but these alternatives compromised the project to a degree that it was unreasonable to proceed with the project in light of its stated purpose and need. Other alternatives that avoided Prosser Valley Ditch included major widening and improvements along Wedekind Road, McCarran Boulevard, Pyramid Way south of McCarran Boulevard, and Rock Boulevard. These alternatives were eliminated because of the disproportionately severe social and economic impacts to the communities surrounding these corridors, many of which are

minority and low-income populations. None of these alternatives would be prudent avoidance alternatives.

5.7.2.1 Realignment Option

Dandini Boulevard in this area descends from the west at a steep grade to the intersection with Sun Valley Boulevard and continues east as El Rancho Drive. The steep grade and surrounding topography would require a complete deviation from the existing alignment to avoid the Prosser Valley Ditch segment. Any potential realignment of Dandini Boulevard would also increase the number of residential and business relocations in Sun Valley, an identified community of Environmental Justice concern, disrupting an established community. The evaluation of these alternatives is described in detail below. These alternatives are illustrated in Appendix C *Plan Sheets*.

Southern Realignment of Dandini Drive

The southern realignment option for Alternatives 1 and 2 would realign Dandini Drive from the intersection with Raggio Parkway, along the vacant hillside, to the existing smaller intersection with Sun Valley Boulevard at Crystal Lane (refer to figures in Appendix C). For Alternatives 3 and 4, the alignment for the future West Sun Valley Arterial could be extended farther south and connect with Sun Valley Boulevard again at Crystal Lane. For all the alternatives, this change would move the eastern terminus of Dandini Drive /West Sun Valley Arterial from the existing intersection with Sun Valley Boulevard at El Rancho Drive to Sun Valley Boulevard at Crystal Lane.

The realignment of Dandini Drive to the south would tie into Sun Valley Boulevard at a new location that would change overall traffic patterns, create a jog in the road that obstructs east-west travel patterns, require additional turning movements, and increase out-of-direction travel between Crystal Lane and El Rancho Drive. East-west trips between Dandini Drive and El Rancho Drive would require use of Sun Valley Boulevard to reach El Rancho Drive, or, more likely, use of existing neighborhood streets to access El Rancho Drive from Crystal Lane. This increase in pass-through traffic would burden the local neighborhood streets, which are not designed to safely or efficiently accommodate this amount of traffic. Increased traffic would also require widening of Sun Valley Boulevard to accommodate additional through and turn lanes and other improvements to the existing intersection at Crystal Lane. In addition, the close proximity of the two intersections would cause traffic operational problems along this segment of Sun Valley Boulevard and at the western terminus of El Rancho Drive because of the amount of signal time dedicated to the heavy volume of turning movements, interfering with the north-south traffic flow on Sun Valley Boulevard. All of these changes would result in the creation of new travel inefficiencies and reduced traffic operational performance, which would be inconsistent with the purpose and need to "provide direct and efficient travel routes to address existing travel inefficiencies."

Also, realignment of Dandini Boulevard to the south would result in additional right-of-way acquisition. This acquisition would require the relocation of four additional mobile homes within the Reno Cascade Mobile Home Community, two single-family residential houses, and two multiunit buildings containing four units per building from the Clearacre Garden Condominium Complex. As shown in Figure 3-8, these residences are located within areas identified as containing minority and low-income populations. The alignments of Build Alternatives 1 through 4 were chosen in part because they crossed potential environmental justice populations in the narrowest location in Sun Valley, thereby minimizing direct impacts from relocations as well as indirect impacts from noise, construction, and visual changes. For the whole project, each of the alternatives already necessitate relocating between 116 and 192 residences in EJ neighborhoods; this alternative would increase environmental justice relocations by 14 units, or 7 percent to 12 percent. Additionally, Crystal Lane is currently a dead-end neighborhood street that connects to Leonesio Drive, a north-south neighborhood access road. A new major east-west road at Crystal Lane would divide Leonesio Drive and isolate the Clearacre Garden Condominium Complex south of Crystal Lane. Also required would be the additional land from the Truckee Meadows Community College. Additional land may also be required for improvements to the intersection with Sun Valley Boulevard for additional lanes extending both north and south along Sun Valley Boulevard, which would result in partial takes on several other parcels.

The existing roadway uses a drainage wash that serves to minimize the need for earthwork and generally balance the necessary cuts and fills. Realignment of Dandini Boulevard to the south would require substantial additional earthwork. An 80-foot-high hill is located between the existing alignment of Dandini Boulevard and Crystal Lane. Because of this steep topography, a new roadway would result in an excess of 196,500 cubic yards of earthwork. For all four build alternatives, this is a range of 3 percent to 6.5 percent of the total project earthwork. This earthwork would also result in steep slopes that would be subject to increased erosion, which in turn would increase sedimentation in stormwater runoff. As discussed in Section 3.10.3, the steeper the terrain where construction occurs, the greater the challenge of eliminating water quality impacts.

Therefore, it was determined that realigning Dandini Boulevard to the south to avoid Prosser Valley Ditch was not a prudent avoidance alternative because it:

- Compromises the degree to which the project meets its intended purpose and need.
- Requires 14 additional property acquisitions, resulting in direct relocation impacts and indirect noise, community cohesion, visual, and construction impacts to an established environmental justice community.
- Increases the project earthwork by 3 percent to 6.5 percent, which in turn increases construction costs and results in steep slopes that are more prone to erosion and pose a greater challenge in eliminating water quality impacts.

These factors cumulatively cause unique problems or impacts of an extraordinary magnitude that render the alternative imprudent, particularly considering that Prosser Valley Ditch has already been divided at this location by previous road construction and most of Segment C would remain intact.

Northern Realignment of Dandini Drive

A realignment of Dandini Drive to the north would result in additional impacts to the Sun Valley community, similar to the southern option (refer to figures in Appendix C). Dandini Drive would be closed at Raggio Parkway. The existing connection to Sun Valley Boulevard would be permanently closed and travelers would use Raggio Parkway and a widened West 1st Avenue to reach Sun Valley Boulevard and continue on Rancho Drive, creating a jog in the road that obstructs east-west travel patterns, requires additional turning movements, and increases out-of-direction travel between East 1st Avenue and El Rancho Drive. The loss of the direct connection from the Dandini Regional Center to El Rancho Drive would increase traffic on West 1st Avenue and Sun Valley Boulevard, requiring intersection improvements and widening of West 1st Avenue, and the possible addition of through lanes and turn lanes at other locations along Sun Valley Boulevard. This alternative would degrade the operations of Sun Valley Boulevard because of the amount of signal time dedicated to the heavy volume of turning movements, interfering with the north-south traffic flow on Sun Valley Boulevard. This alternative would result in east-west travel inefficiencies and reduced traffic operational performance, which would be inconsistent with the purpose and need to "provide direct and efficient travel routes to address existing travel inefficiencies."

West 1st Avenue is currently a 40-foot wide neighborhood road with 11 adjacent mobile homes that are set back from the road by 30 to 40 feet. This alignment would require acquisition of all of the mobile homes along West 1st Avenue to accommodate widening of West 1st Avenue. As shown in Figure 3-8, these residences are located within areas identified as containing minority and low-income populations. This alternative would increase environmental justice relocations by 11 units, or 6 percent to 10 percent of the total number of environmental justice relocations required for the project, and result in indirect noise, community cohesion, visual, and construction impacts to an established environmental justice community. Further, this alternative would require acquisition of a portion of the Lois Allen Elementary School playground. The elementary school is a land use that is heavily oriented toward pedestrian uses that would not be compatible with a major road.

Realignment of Dandini Boulevard to the north would require substantial additional earthwork. An 80-foot-deep valley is located between Reggio Parkway and West First Avenue. Because of this steep topography, a new roadway would require 229,400 cubic yards of additional earthwork for all four build alternatives, which is between 3.5 percent to 7.5 percent of the total project earthwork required.

Because West 1st Avenue has slopes of approximately 10 percent (which exceeds NDOT and Washoe County design criteria for maximum allowable slopes), significantly increasing traffic on this stretch of roadway poses considerable traffic safety concerns, even with widening improvements along the road. There are multiple intersections along the roadway, including a driveway to Lois Allen Elementary School with potential for sight and stopping distance issues associated with increased traffic along a steep roadway. This is especially true for periods in the morning and afternoon when pedestrians are present near the elementary school.

Therefore, it was determined that realigning Dandini Boulevard to the north to avoid Prosser Valley Ditch was not a prudent avoidance alternative because it:

- Compromises the degree to which the project meets its intended purpose and need.
- Requires 11 additional property acquisitions, resulting in direct relocation impacts and indirect noise, community cohesion, visual, and construction impacts to an established environmental justice community.
- Results in unsafe conditions resulting from the combination of steep slopes (10 percent) that exceed NDOT and Washoe County design standards, heavy pedestrian activity, and closely spaced intersections.
- Increases the project earthwork by 3.5 percent to 7.5 percent, which in turn increases construction costs.

These factors cumulatively cause unique problems or impacts of an extraordinary magnitude rendering the alternative imprudent, particularly considering that Prosser Valley Ditch has already been divided at this location by previous road construction and most of Segment C would remain intact.

Bridge Option

The possibility of spanning Prosser Valley Ditch with a bridge was analyzed. The roadway for each of the other build alternatives considered is at a lower elevation than Prosser Valley Ditch. Therefore, to cross the ditch with a bridge, the entire profile of the road would need to be raised. To then connect the bridge approaches back to Sun Valley Boulevard, approximately 1,700 feet away, the slope would be approximately 9.5 percent, which exceeds the Washoe County and NDOT design criteria for maximum allowable slopes (NDOT, 2010). Because the road also curves to the north at this location, this steep horizontal slope would be combined with a cross slope, further compromising safety. Potential traffic safety issues could include accidents caused by a steep and potentially icy bridge, heavy vehicles unable to stop running through the intersection at Sun Valley Boulevard, and collisions associated with inadequate sight distance.

The bridge would likely be a single span, approximately 200 to 300 feet in length situated on a 9.5 percent roadway slope. This would add substantial cost to the project because of the length of the bridge and the difficult topographic setting.

Because a bridge could not be constructed to meet NDOT standards and would result in unacceptable safety problems, it was determined that a bridge structure would not be prudent, particularly considering that Prosser Valley Ditch has already been divided at this location by previous road construction and most of Segment C would remain intact.

Omit Safety Features Option

Proposed safety features for Dandini Boulevard include constructing a center median, 5-foot sidewalks and 5-foot bike lanes on both sides, and wider shoulders, requiring widening of the roadway. As such, the roadway would be widened where it crosses Segment C of the ditch, which would impact the ditch. Omitting these safety features would eliminate the need to widen the roadway, which would avoid impacts to the ditch.

Dandini Boulevard is a steep and curvy roadway in the area of Prosser Valley Ditch. This area lies in a climate that frequently sees dangerous inclement weather throughout the winter. Under all build alternatives, this segment of Dandini Boulevard is likely to see an increase in traffic. These traffic increases on a steep curvy road would increase the likelihood of spin-outs, side impacts, and, most importantly, head-on collisions.

Dandini Boulevard also connects the Sun Valley community with the Truckee Meadows Community College. The proposed sidewalks and bike lanes along Dandini Boulevard are proposed to improve bike and pedestrian safety for the college's students, teachers, and the larger community. The need for such improvements has been identified as part of the environmental justice outreach to the Sun Valley community.

Because of these safety issues, it was determined that eliminating the proposed safety features from the Dandini Boulevard improvements was not a prudent avoidance alternative because it would result in unacceptable safety problems, particularly considering that Prosser Valley Ditch has already been divided at this location by previous road construction and most of Segment C would remain intact.

5.7.2.2 Measures to Minimize Harm

The Study team undertook the following measures during preliminary design of the build alternatives to minimize use of the Prosser Valley Ditch:

Alternative 1. By keeping the Dandini Boulevard connection to Sun Valley Boulevard in its current location, use of the ditch was minimized. The initial design for Alternative 1 would have used approximately 305 linear feet of the ditch. Because there is no existing culvert under Dandini Boulevard for the ditch, the fill slope impacts were reduced by

adding a retaining wall along both sides of the roadway, thereby reducing use of the ditch by 280 feet.

Alternative 2. By keeping the Dandini Boulevard connection to Sun Valley Boulevard in its current location, use of the ditch was minimized. The initial design for Alternative 2 would impact approximately 305 linear feet of the ditch. Because there is no existing culvert under Dandini Boulevard for the ditch, the fill slope impacts were reduced by adding a retaining wall along both sides of the roadway, thereby reducing use of the ditch by 280 feet. Also, Alternative 2 originally impacted the northern portion of Segment C as a result of the cut slope from the east bound off-ramp from the US 395 Connection. The cut slope was eliminated through the use of a cut wall, eliminating 200 feet of impact to the ditch in that area.

Alternative 3. By adding retaining walls along both sides of the realigned Dandini Boulevard, use of the ditch was reduced by approximately 230 feet.

Alternative 4. By adding retaining walls along both sides of the realigned Dandini Boulevard, use of the ditch was reduced by approximately 100 feet.

5.7.2.3 Mitigation

RTC and/or NDOT will complete an extensive 35mm photo study of the ditch segments impacted prior to any disturbance. RTC and/or NDOT will complete a report following the Nevada State Historic Preservation Office Documentation Standards for Historical Resources of Local and State Significance, September 2009 edition. The report will document the history of the entire ditch and place the impacted segments within the context of the overall irrigation system. RTC and/or NDOT will consider signage or other media for public education about the ditch and the significance of irrigation in Nevada at some location near the ditch.

To mitigate temporary impacts during construction, RTC and/or NDOT will undertake the following measures:

- Minimize area of disturbance to the extent practicable.
- Control construction access.
- Limit work within construction area.
- Revegetate disturbed areas as soon as practicable consistent with adjacent landscape features and with desirable native plant species.

5.7.3 Park and Recreation Resources

The following is an evaluation of the potential use of the identified parks and recreation resources that qualify for Section 4(f) protection.

Sun Valley Open Space. The Study team determined during the EIS process that some of the US 395 Connection alignment alternatives could result in use of a large portion of a property in Sun Valley identified for open space. Currently this property contains no recreation resources and there are no future plans for the development of recreation resources on this property. To determine whether Section 4(f) would apply to the Sun Valley open space parcel, the Study team coordinated with Washoe County park planners to discuss the County's plans for the property and to communicate details about the build alternatives that would potentially cross the property. In support of this continuing coordination, the Washoe County Board of Commissioners adopted a Resolution of Support in August 2011, which is contained in Appendix A *Agency Coordination*. The resolution acknowledges that both Washoe County and RTC are committed to working together to accommodate future joint uses for the parcel. Further, should the project affect the parcel, RTC will participate with Washoe County by providing reasonable funding and supporting possible construction to maintain compatibility between the project's roadway improvements and the limited park improvements planned by the County.

Cooperative planning is proposed to minimize the project's potential impacts to the Sun Valley community. As a result of the Resolution, should the alternative selected as the Preferred Alternative cross the parcel, no Section 4(f) use would occur, and, as such, this would be considered joint planning under 23 CFR 774.11(i).

Lazy 5 Regional Park. The Spanish Springs Library and parking area are located between Pyramid Highway and the park. The proposed alternatives would impact portions of the library but would not directly use any park areas at Lazy 5 Regional Park.

All build alternatives would result in a reconfiguration of the existing access from Pyramid Highway to meet safety requirements and current design standards as part of the Pyramid Highway improvements. This reconfiguration would not be located on the part of this parcel that is used for recreational purposes. This would involve closing the existing driveway access and providing access south of the library via a connection to the new roadway planned as part of the future development to be located south of the library. It is anticipated that the modified access would be in place before construction for this project occurs in this vicinity. Washoe County and NDOT have been coordinating with the developer and support the revised access. RTC and/or NDOT will determine the reconfigured access and parking lot circulation during the final design process. If the future development is not in-place by the time access to the park would be affected, RTC and/or NDOT will provide alternate access. As a result, it has been determined that the access impacts to the Lazy 5 Regional Park are not so severe that they would substantially impair the protected activities, features, or attributes that qualify it for protection under Section 4(f). There would be no traffic noise or visual impacts to the park. Therefore, effects to this property would not result in a Section 4(f) use or a constructive use under Section 4(f).

Wedekind Park. All build alternatives would use portions of park property for road widening and stormwater management. Additionally, the existing access to the trailhead parking at the northern portion of Wedekind Park, which is currently accessed via a driveway on the south side of Disc Drive just east of Pyramid, would be preserved and slightly improved. Use of Wedekind Park has been determined to be a *de minimis* impact under all build alternatives, as described below. In order for the FHWA to make a final *de minimis* impact determination, the FHWA must inform the Official with Jurisdiction of the intent to make a *de minimis* finding and that Official must concur in writing with that determination. Additionally, public notice and an opportunity to review and comment on the intent for a *de minimis* finding must be provided. FHWA and NDOT have coordinated with the City of Sparks, the Official with Jurisdiction for Wedekind Park, to discuss these Section 4(f) uses. RTC sent a draft letter to the City of Sparks on October 1, 2012 describing potential impacts to Wedekind Park and requesting concurrence that the build alternatives would result in a *de minimis* impact to the park, and a final signed letter on April 3, 2013. The Lead Agencies continue to assist the City of Sparks as the city coordinates with BLM regarding potential impacts to Wedekind Park. On May 13, 2013, the City's Parks Director concurred with the *de minimis* finding. Additionally, uses at Wedekind Park associated with the build alternatives and FHWA's intent for a *de minimis* finding for the park were presented for public review and comment at the June 13, 2012 Spanish Springs public meeting. Further, public input on the possible findings of *de minimis* will also be specifically requested during the public comment period for the Draft EIS.

Alternative 1. A total of approximately 4.1 acres of the 250-acre Wedekind Park, which represents 1.6 percent of the park, would be subject to direct use, as illustrated in Figure 5-9. Use would occur in two distinct areas of the property. Approximately 0.7 acre of use would occur in the northwest corner directly adjacent to Pyramid Highway and Disc Drive where intersection improvements would occur. These uses would consist of sliver uses directly adjacent to existing roadways and include placement of fill slopes within the park property. Proposed development of the park includes access from Disc Drive in this area which would be accommodated in the proposed design.

Approximately 3.4 acres of use are associated with construction of a water quantity/quality basin in the southwest portion of the park adjacent to Pyramid Highway and existing residential uses. The proposed water quantity/quality basin would be an unfenced, shallow, natural-appearing depression.

Both areas of use are located on the periphery of the park adjacent to existing transportation features. Neither of these areas contains proposed recreation features associated with the park. Proposed uses of the park under Alternative 1 would not adversely affect the features, attributes, or activities that qualify the property for protection under Section 4(f). Therefore, FHWA has recommended use of Wedekind Park as a *de minimis* impact.

Figure 5-9. Wedekind Park Use, Alternatives 1 and 3

Alternative 2. A total of approximately 5.4 acres of the 250-acre Wedekind Park, which represents 2.2 percent of the park, would be subject to use, as illustrated in Figure 5-10. The 5.4 acres of impact include approximately 1.6 acres associated with the improvements at Disc Drive and Pyramid Highway, and approximately 3.8 acres associated with construction of the water quantity/quality basin in the southwest portion of the park. Although the areas of use are slightly more under Alternative 2 than those described under Alternative 1, the locations and types of use are similar. Similar to Alternative 1, proposed uses of the park under Alternative 2 would not adversely affect the features, attributes, or activities that qualify the property for protection under Section 4(f). Therefore, FHWA has recommended use of Wedekind Park as a *de minimis* impact.

Alternative 3. Use of Wedekind Park under Alternative 3 would be similar to those described under Alternative 1 and displayed in Figure 5-9, except that Alternative 3 would result in an additional 40 square feet of use associated with the improvements at Disc Drive and Pyramid Highway. Impacts to the park under Alternative 3 would not adversely affect the features, attributes, or activities that qualify the property for protection under Section 4(f). Therefore, FHWA has recommended use of Wedekind Park under Alternative 3 as a *de minimis* impact.

Alternative 4. Use of Wedekind Park under Alternative 4 would be similar to those described under Alternative 2 and displayed in Figure 5-10. Uses of the park under Alternative 4 would not adversely affect the features, attributes, or activities that qualify the property for protection under Section 4(f). Therefore, FHWA has recommended use of Wedekind Park under Alternative 3 as a *de minimis* impact.

5.7.3.1 All Possible Planning to Minimize Harm

The Study team minimized use of Wedekind Park throughout the preliminary design performed for this Study. Design for the water quantity/quality basin initially included a deeper basin with steeper slopes; however, this would be less natural appearing and require fencing, which would detract from the park setting. Additionally, an attempt to include a storm drain that would pipe stormwater from this area directly to the proposed receiving stream was examined. This would require construction of a new drain system and a 1.9-mile easement through the neighborhood, which was deemed infeasible. A secondary outlet was examined to be located directly west of Wedekind Park; however, this would require construction of a water quantity/quality basin on the Iratcabal Farm property, another Section 4(f) resource. The design team minimized the footprint of the alternatives to the greatest extent possible through the use of retaining walls and will continue to examine potential ways to further reduce impacts as the project moves toward final design.

Figure 5-10. Wedekind Park Use: Alternatives 2 and 4

5.7.3.2 *Mitigation*

Design of fill slopes at the Disc Drive/Pyramid Highway intersection will be constructed to mimic the natural landscape, and all disturbed areas will be revegetated. Revegetation will include reseeding with native grasses and use of native shrubs as appropriate. Similarly, design of the proposed water quantity/quality basin will also mimic natural landscape to the extent possible, and will be revegetated. The existing access to the trailhead parking at the northern portion of Wedekind Park, which is currently accessed via a driveway on the south side of Disc Drive just east of Pyramid, would be preserved and slightly improved. During construction, best management practices will be used for erosion control. Property acquisition will be completed under the Uniform Relocation Act.

RTC and/or NDOT will continue to coordinate with the City of Sparks Parks and Recreation Department on the design of the water quantity/quality basin proposed in the southwest portion of the park to facilitate consistency with the park's planned uses and amenities. Coordination with the City of Sparks, as well as Washoe County Parks staff, will continue throughout the EIS and the final design process to mitigate use of Wedekind Park.

5.8 Least Overall Harm Analysis

The FHWA has determined that there is no feasible and prudent avoidance alternative to use of a Section 4(f) property and the build alternatives include all possible planning to minimize harm to the Section 4(f) property resulting from such use.

Section 4(f) mandates that if there is a feasible and prudent alternative that avoids the use of a Section 4(f) resource, that alternative must be selected. If all alternatives use land from a Section 4(f) resource, then an analysis must be performed to determine which one would have the least overall harm to the Section 4(f) resource. The least overall harm is determined by balancing the following factors:

- The ability to mitigate adverse impacts to each Section 4(f) property.
- The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualifies each property for protection.
- The relative significance of each Section 4(f) property.
- The views of the Official(s) with Jurisdiction over each Section 4(f) property.
- The degree to which each alternative meets the purpose and need for the project.

- After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f).
- Substantial differences in costs among the alternatives.

Two Section 4(f) properties have been determined to have a use, one of which has been recommended as a *de minimis* use. Table 5-1 contains is a comparison of the uses of these properties by alternative.

Table 5-1. Section 4(f) Properties Comparison of the Uses

Property	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Prosser Valley Ditch	25 feet of ditch directly used	25 feet of ditch directly used	120 feet of ditch directly used	90 feet of ditch directly used
Wedekind Park	4.1 acres of park property directly used resulting in *de minimis* impact	5.4 acres of park property directly used resulting in *de minimis* impact	4.1 acres of park property directly used resulting in *de minimis* impact	5.4 acres of park property directly used resulting in *de minimis* impact

Among the alternatives, only minor differences are exhibited as they relate to use of Wedekind Park. Use of this property has been recommended for *de minimis* approval. Alternative 1 uses the least acreage from the park, although all build alternatives use relatively the same amount of land from the property and all uses occur in the same areas under all build alternatives. By definition, the *de minimis* impacts would not affect the protected activities, features, or attributes of the property. Therefore, the *de minimis* use of Wedekind Park does not contribute to the differentiation between the alternatives or the determination of least overall harm.

5.8.1 Ability to Mitigate Adverse Impacts

Mitigation measures for the Prosser Valley Ditch are similar under all alternatives. Mitigation involves completion of historic recordation for the resource, including a report and photo study of the impacted ditch segments prior to any disturbance. The report will document the history of the entire ditch and place the impacted segments within the context of the overall irrigation system. RTC and/or NDOT will consider signage or other media for public education about the ditch and the significance of irrigation in Nevada at some location near the ditch. The mitigation measures undertaken would reduce the overall effects of the alternatives on the protected Section 4(f) resources equally.

5.8.2 Relative Severity of the Remaining Harm

After mitigation, the severity of the remaining harm to the protected activities, attributes, or features that qualify Prosser Valley Ditch for protection is only slightly different among the build alternatives and, therefore, does not significantly contribute to the differentiation among the alternatives. As stated above Alternatives 1 and 2 result in

the least linear feet of impacts at 25 feet, while Alternatives 3 and 4 would impact 120 and 90 feet respectively. Relatively, these amounts are not much different when considering that Segment C of the Prosser Valley Ditch is approximately 2,000 linear feet in length. Therefore, the alternatives impact between 1 percent and 6 percent of the entire segment. All alternatives would impact the ditch in the same area, where previous road construction has already divided the ditch.

5.8.3 Views of the Officials with Jurisdiction

The Officials with Jurisdiction that have been coordinated with include the State Historic Preservation Officer and the City of Sparks. The views of the SHPO on the relative significance and value of the historic properties are based on documentation from the Section 106 determinations of eligibility and effects. Concurrence on these effects has been received. Further, the City of Sparks has concurred with the *de minimis* finding for Wedekind Park.

Therefore, the views of the Officials with Jurisdiction over the resources do not contribute to the differentiation between the alternatives or the determination of least overall harm.

5.8.4 Degree to Which Each Alternative Meets the Purpose and Need of the Project

Overall, the four build alternatives would each meet the various components of the purpose and need for the project equally well; however, there are minor differences among the alternatives related to each individual purpose and need statement for the Study.

5.8.4.1 Purpose: Provide improvements to serve existing and future growth.

The considerable growth in population and employment in the last 20 years for the Cities of Reno and Sparks and unincorporated Washoe County is expected to continue, straining the region's transportation network. The alternatives were evaluated for addressing this need based on their ability to accommodate increased traffic associated with the forecasted growth.

Each of the build alternatives would attract traffic to the US 395 Connector and to the northern Pyramid corridor while reducing traffic on some key roadways in the Study Area, including McCarran Boulevard, Sparks Boulevard, and Pyramid Way south of Disc Drive. Growth rates for the build alternatives range between 1.3 percent and 6.1 percent along Pyramid Highway. The US 395 Connector would also result in a greater increase in traffic on US 395 than the No-Action Alternative. Each of the build alternatives would result in similar traffic conditions on the new facilities, including LOS D or better on freeways, and LOS E or better at intersections.

Alternative 3 with the ridge alignment results in slightly worse operations on the existing Pyramid Highway between Disc Drive and Golden View Drive, compared to Alternative 1 with the off alignment. Also, traffic operations on Sun Valley Boulevard are better with Alternatives 3 and 4 that have the interchange located at West Sun Valley, compared to Alternatives 1 and 2. However, Alternatives 3 and 4 result in more traffic on US 395.

5.8.4.2 Purpose: Alleviate existing congestion problems on Pyramid Highway.

The inadequate Study Area transportation network results in congested area roadways. Study Area LOS is substandard during peak hours, and VMT and VHT is expected to increase, resulting in speed delays. The alternatives were evaluated for addressing this need based on their effects on Study Area intersection and roadway LOS, and effects on VMT and VHT.

As stated above, each of the build alternatives would result in similar traffic conditions on the new facilities, including LOS D or better on freeways, and LOS E or better at intersections. Alternative 3 with the ridge alignment would result in slightly worse operations on the existing Pyramid Highway between Disc Drive and Golden View Drive, compared to Alternative 1 with the off alignment. Also, traffic operations on Sun Valley Boulevard would be better with Alternatives 3 and 4 that have the interchange located at West Sun Valley, compared to Alternatives 1 and 2. However, Alternatives 3 and 4 would result in more traffic on US 395.

Each of the build alternatives would result in similar increases in overall VMT, ranging from 35,000 to 42,000, of daily regional VMT in 2030 compared to the No-Action Alternative, for totals of about 17.74 million per day. Each build alternative would add more than 497,000 VMT on freeways, but would reduce VMT by nearly as much on arterials and other local roads. Minor VMT differences indicate that Alternatives 3 and 4 with the West Sun Valley interchange would increase VMT by about 6,000 compared to Alternatives 1 and 2. Another minor difference is that Alternatives 1 and 3 with the off and ridge alignments would slightly reduce VMT.

All the build alternatives would increase overall average speed for the region, indicating that the build alternatives would successfully reduce congestion.

5.8.4.3 Purpose: Provide direct and efficient travel routes to address existing travel inefficiencies

The Study Area's lack of adequate east-west and north-south connectivity has created inefficient and indirect travel routes. The alternatives were evaluated for addressing this need based on their effects on area connectivity and access.

All build alternatives would improve Study Area and regional east-west connectivity by providing an alternate, high-speed route for east-west motorists via the new US 395

Connector. Alternatives 1 and 3 would improve north-south connectivity by adding a new roadway parallel to the existing Pyramid corridor, and provide greater regional connectivity between northern Sparks and central Reno because the off alignment and ridge alignment would provide more direct routes. Alternatives 2 and 4 would provide greater local connectivity to activity areas along Pyramid Highway because the on alignment with frontage roads would provide direct access to those uses along the enhanced roadway.

All build alternatives would convert the existing arterial Pyramid Highway to a limited-access freeway facility for much of the Pyramid Highway corridor, and would impact access for many residents and businesses in the Study Area. Some property owners would have improved access, while others would have negative access impacts.

Along the Pyramid Corridor, five roadways that currently have full access to the highway would be closed in each build alternative. Along Pyramid north of Sparks Boulevard, each of the build alternatives would convert two locations that currently have full access to Pyramid Highway to right-in/right-out onto a one-way frontage road. Alternatives 2 and 4 with the on alignment also would change the access to right-in/right-out onto a one-way frontage road at two locations between Disc Drive and Sparks Boulevard. Access to one-way frontage roads would result in out-of-direction travel for those trips turning left on or off the highway, because these trips would need to travel on the one-way frontage road and turn around at the next interchange.

Alternatives 1 and 4 would close part of Rampion Way because of the North Crossing of Sun Valley Boulevard. Alternatives 2 and 3 would close the middle section of East and West Leonesio Drives because of the South Crossing of Sun Valley Boulevard.

5.8.4.4 Purpose: Respond to regional and local plans.

Proposed improvements need to be consistent with the goals and vision of local and regional plans. Numerous local plans cite a need for transportation improvements to help meet land use and transportation goals, and include plans to improve Pyramid Highway and east-west connectivity, and provide multimodal options. The alternatives were evaluated for addressing this need based on their consistency with area plans.

All build alternatives would equally provide improvements consistent with RTC's 2030 RTP to improve Pyramid Highway and provide a new US 395 connection. The enhanced transit service included with all build alternatives would meet the needs expressed in area plans to provide a safe, efficient, and multimodal transportation system connecting commercial, employment, and public spaces. All build alternatives also would equally provide a comprehensive system of bicycle and pedestrian routes consistent with area plans by providing shared use paths, bike lanes, and sidewalks that would improve connectivity in the Study Area and the region. The differences among the four build alternatives in meeting the stated purpose and needs are minor and, when viewed

across board, do not contribute to the differentiation between the alternatives or the determination of least overall harm.

5.8.5 Magnitude, After Mitigation, of Adverse Impacts to Other Resources

After reasonable mitigation, the adverse impacts to other resources as a result of the four build alternatives are relatively similar. These are summarized in Table 5-2.

Table 5-2. Adverse Impacts to other Resources after Mitigation

Resource	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Consistent with local and regional planning	Yes	No, due to impacts at Sparks Galleria.	Yes	No, due to impacts at Sparks Galleria.
Residential Relocations	206	320	263	250
Business Relocations	21	43	16	45
Impacted noise receivers	213	291	192	281
Wetlands (square feet of fill)	10	3,475	520	109
Waters of the U.S. (acres of fill)	0.40 acre	0.10 acre	0.28 acre	0.39 acre
Acres of fill in the 100-year floodplain	18.6 acres	16.1 acres	14.4 acres	18.1 acres

5.8.6 Substantial Differences in Cost

Preliminary cost estimates for the four build alternatives have been calculated for construction and engineering costs only. These estimates show no substantial differences in costs among the alternatives; however, there are relatively minor differences. Alternative 3 costs the least at $697,484,633, while Alternative 4 costs the most at $786,497,755. Alternatives 1 and 2 lie between those two estimates, with average costs of $702,453,896 and $741,541,826, respectively. However, these costs are extremely preliminary estimates. In summary, cost differences do not contribute to the differentiation between the alternatives or the determination of least overall harm.

5.8.7 Summary

The evaluation of least overall harm was conducted by balancing all of the factors described above. Under Section 4(f), if alternatives are determined to cause "substantially equal" harm to Section 4(f) property, then FHWA may choose any one. The evaluation of least overall harm for this Study does not result in substantial difference in harm to the identified Section 4(f) properties. Section 4(f) uses that would occur under the build alternatives would include a use of one historic ditch and a *de minimis* use of a park property.

Alternative 1 would result in slightly less total use of the two Section 4(f) properties than the other three alternatives; however, the differences are so minor when viewed relatively that this does not reveal a substantial difference among the alternatives. Uses of Prosser Valley Ditch range from 25 linear feet of use, or 1 percent of the ditch segment under Alternatives 1 and 2, to 120 linear feet of use, or 6 percent, under Alternative 3. All of the uses would be similar in nature and location and would result in an "adverse effect" under Section 106 consultation with the SHPO. Mitigation is similar among all build alternatives and would involve completion of historic recordation for the resource, including a report and photo study of the impacted ditch segments and potentially interpretive signage. Consultation on the effects of the project with the SHPO has not been concluded; however, it is likely that under all alternatives the historic ditch segment would continue to contribute to the overall eligibility of the resource.

Section 4(f) use of Wedekind Park ranges from approximately 4.1 acres, or 1.6 percent of the total park property, under Alternatives 1 and 3, to 5.4 acres, or 2.2 percent, under Alternatives 2 and 4. These impacts are similar in nature among all alternatives and have been recommended as *de minimis* impacts. As such, the significance of the Section 4(f) properties, the opinions of the Officials with Jurisdiction, and the relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualifies the properties for protection do not provide a substantial difference among the alternatives for a determination of least overall harm.

All build alternatives would meet the purpose and need for the project equally well. Related to providing improvements to serve existing and future growth and relieving existing congestion problems on Pyramid Highway, Alternative 3 would result in slightly worse operations on Pyramid Highway between Disc Drive and Golden View Drive, compared to Alternative 1; but, traffic operations on Sun Valley Boulevard would be better with Alternatives 3 and 4 compared to Alternatives 1 and 2. Related to providing direct and efficient travel routes; Alternatives 1 and 3 would improve north-south connectivity and provide greater regional connectivity, while Alternatives 2 and 4 would provide greater local connectivity to activity areas along Pyramid Highway. Alternatives 2 and 4 also would change the access to right-in/right-out onto a one-way frontage road at two locations between Disc Drive and Sparks Boulevard, resulting in out-of-direction travel for those trips turning left on or off the highway. Alternatives 1 and 4 would close part of Rampion Way because of the North Crossing of Sun Valley Boulevard. Alternatives 2 and 3 would close the middle section of East and West Leonesio Drives because of the South Crossing of Sun Valley Boulevard.

Related to the remaining purpose and need statements for this Study, there are no noticeable differences among the four build alternatives in their performance. Therefore, as a result of this evaluation, although the build alternatives may have different advantages and disadvantages, the differences among them are minor and do not contribute to the determination of least overall harm.

In assessing the magnitude of adverse impacts to other resources, once again, no single alternative stands clearly above the others. All build alternatives would result in a high-level of socioeconomic impacts to the community. Alternatives 2 and 4 would result in an extremely high number of business relocations, but Alternative 3 also results in much lower single-family homes relocated than the other alternatives. Alternatives 2 and 3 result in the acquisition of the Sierra Pointe apartment complex, which would require the relocation of the residents of approximately 120 separate apartment units. Alternative 3 would result in the lowest impacted noise receivers while Alternative 2 would results in the highest.

Impacts to environmental resources are not extremely severe relative to the scale of the proposed improvements. Alternative 2 would result in far higher impacts to wetlands than the other build alternatives, while also resulting in the least impacts to waters of the U.S. Alternative 1 would result in the least impacts to wetlands, while also resulting in the most impacts to waters of the U.S. This variability among the build alternatives in the impacts to natural resources makes them indistinguishable when assessing which would result in the least impacts to resources not protected by Section 4(f) and, therefore, does not contribute to the determination of least overall harm.

The conclusion of the least overall harm evaluation has determined that there is no substantial difference in harm among the alternatives, and the FHWA is free to select any of the build alternatives as the Preferred Alternative. This determination is based on the preliminary design available at this time. As the Study process and final design move forward, uses of Section 4(f) resources will continue to be evaluated. If these Section 4(f) uses are found to change at any time the results, the least harm analysis will be revisited.

5.9 Consultation and Coordination

Consultation for purposes of this Section 4(f) evaluation has been initiated and will continue through the EIS and final design phases. The consultation and coordination efforts that have occurred thus far are described below. Public involvement and community outreach for the project as a whole is documented in Chapter 4 *Comments and Coordination*.

The Lead Agencies have coordinated with jurisdictions in which public parks and recreation areas are considered significant resources by Section 4(f) criteria. Site mapping, amenities, and activities of the resource associated with affected properties were verified. Meetings were held to describe the project, the alternatives analysis, and the nature and severity of impacts to affected resources. Coordination consisted of numerous meetings and correspondence. The officials with jurisdiction include:

- Washoe County
- City of Reno
- City of Sparks
- Bureau of Land Management
- SHPO

After impacts associated with each of the alternatives were determined, consultation continued with the jurisdictions for which Section 4(f) properties could be potentially affected by the build alternatives. The potential *de minimis* findings, possible measures to minimize harm, and general mitigation strategies were discussed with a commitment to explore these strategies in more detail after identification of the Preferred Alternative. Coordination will continue to occur throughout the EIS process. Appendix A contains the letter from City of Sparks concurring with the proposed *de minimis* findings. Uses at Wedekind Park associated with the build alternatives and FHWA's intent for a *de minimis* finding for the park were presented for public review and comment at the June 13, 2012 Spanish Springs public meeting. Further, public input on the possible findings of *de minimis* will also be specifically requested during the public comment period for the Draft EIS.

The Lead Agencies consulted with the SHPO, tribal governments, and historic consulting parties throughout the NEPA EIS process and Section 106 consultation. FHWA provided its determinations of NRHP eligibility to the SHPO, requested concurrence, and the SHPO concurred. Please refer to Appendix A *Agency Coordination* for pertinent correspondence.

FHWA is currently drafting a Programmatic Agreement (PA) amongst the SHPO, NDOT, RTC, and Reno-Sparks Indian Colony (current draft is contained in Appendix A *Agency Coordination*). The Draft PA contains stipulations to consider the effects of the project on historic architectural, cultural, and archaeological resources that may be encountered but were not identified in the EIS process, and to outline the process by which FHWA would meet its Section 106 responsibilities for all individual aspects of the undertaking, including reporting and coordination requirements between the PA parties. The Draft PA contains effects determinations for the NRHP resources identified in the Study Area and defines mitigation measures needed for the currently identified adverse effects. The final, signed PA will be contained in the Final EIS.